

HOListic Management of Brownfield REgeneration (HOMBRE)

Early Warning indicators brownfield regeneration: tipping points ahead?

*Gerald Jan Ellen
Pauline van Gaans
(Deltares)*

In cooperation with:



www.cabernet.org.uk



www.greenland-project.eu



www.timbre-project.eu

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Content

- Context: HOMBRE project (WP 2)
- Brownfields: looking back or anticipating change?
- Sustainability and adaptation
- Monitoring and learning
- Early warning indicators
- Designing indicators
- Discussion



Brownfields: different sizes and shapes

Source: Ferber, 2010



Picture 3: „First Generation of Brownfields from heavy industries, mining and textile industry



Picture 4: “Second Generation” from military conversion, traffic infrastructure



Picture 5: “Third Generation” for housing, social infrastructure, “Grayfields”

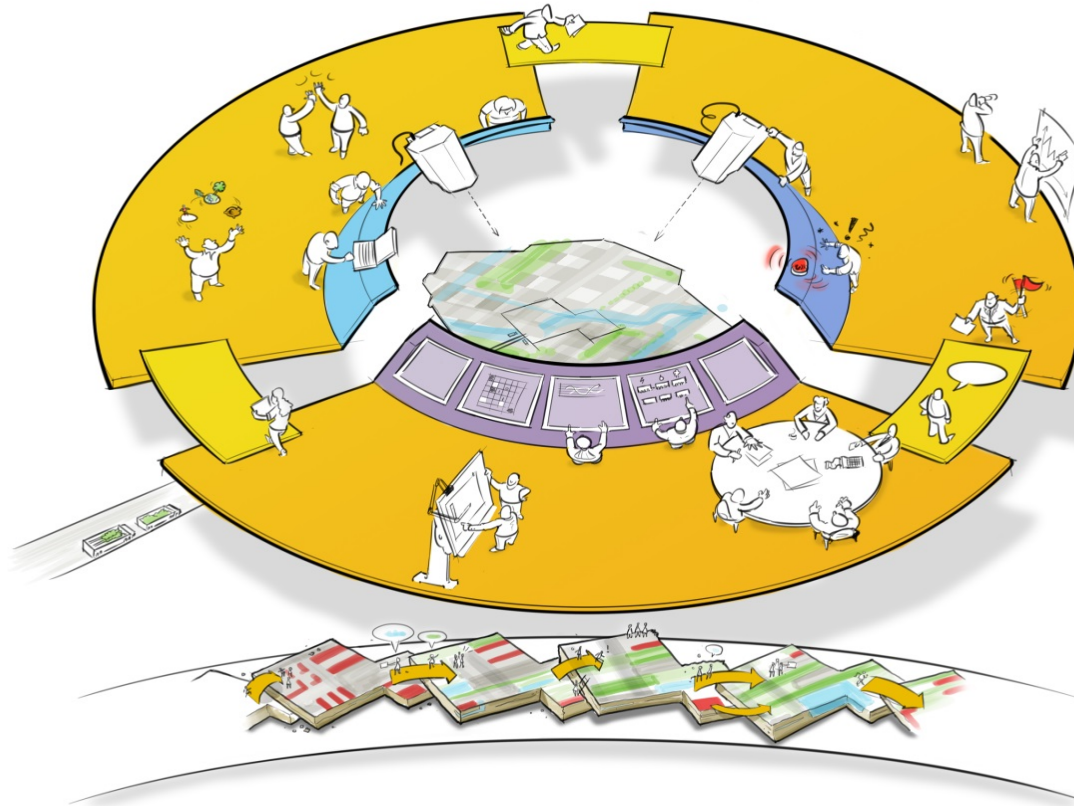
Brownfields (BFs) are sites that have been affected by the former use of the site and surrounding land, are derelict or underused, may have real or perceived contamination problems, are mainly in developed urban areas and require intervention to bring them back to beneficial use (CABERNET, 2005)

Objectives of HOMBRE

More dividend from BF regeneration for environment, economy and society

- Better understanding of why, how, where and when BFs are formed to avoid future BFs (Zero BFs perspective)
- Better planning and more attractive communication technologies for holistic appraisal of BF regeneration options and early stakeholder involvement (Zero Brownfields Perspective & BF Navigator)
- Develop innovative technology combinations for more sustainable BF regeneration (Technology Trains)
- More creative and more sustainable solutions for land use on current or potential future BFs (Soft re-use)

HOMBRE Zero Brownfield Framework

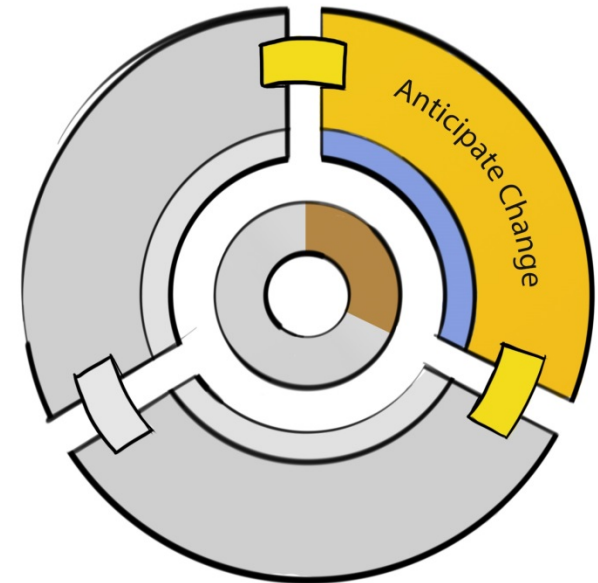


Tailored & Sustainable Redevelopment towards Zero Brownfields



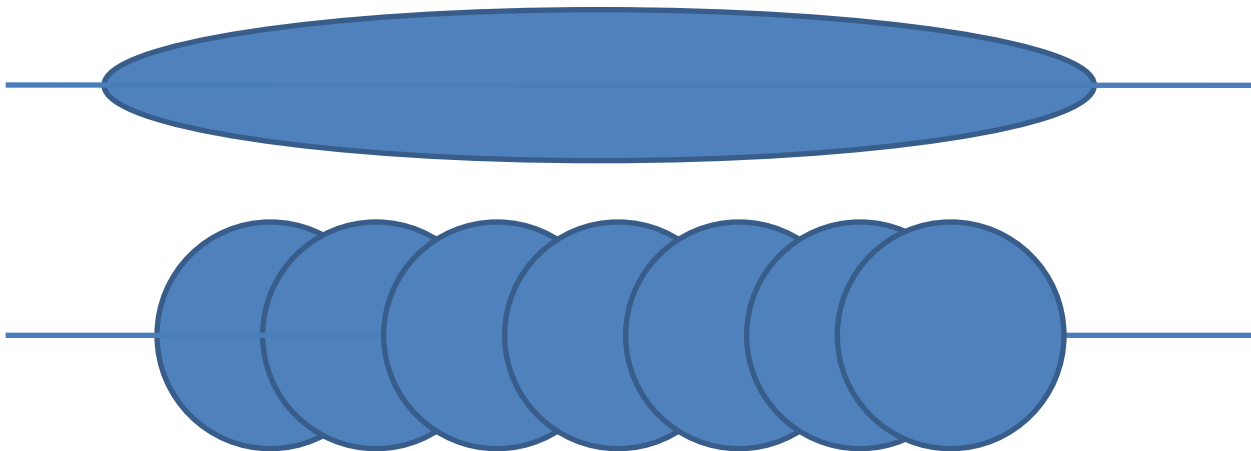
BF's: rearview mirror or anticipating change?: WP2

- *better understanding of why, how, where and when BFs are formed*, in order to avoid future BFs as much as possible.
- To this end, 'early indicators' are identified, that can aid in anticipating BF formation and related problems in an early stage.
- Then, through managed intervention, BF formation could be prevented from happening.
- Thus, the goal of the early indicators is to have a signalling function towards persons or organisations responsible for land management.



Sustainability as a continuous process

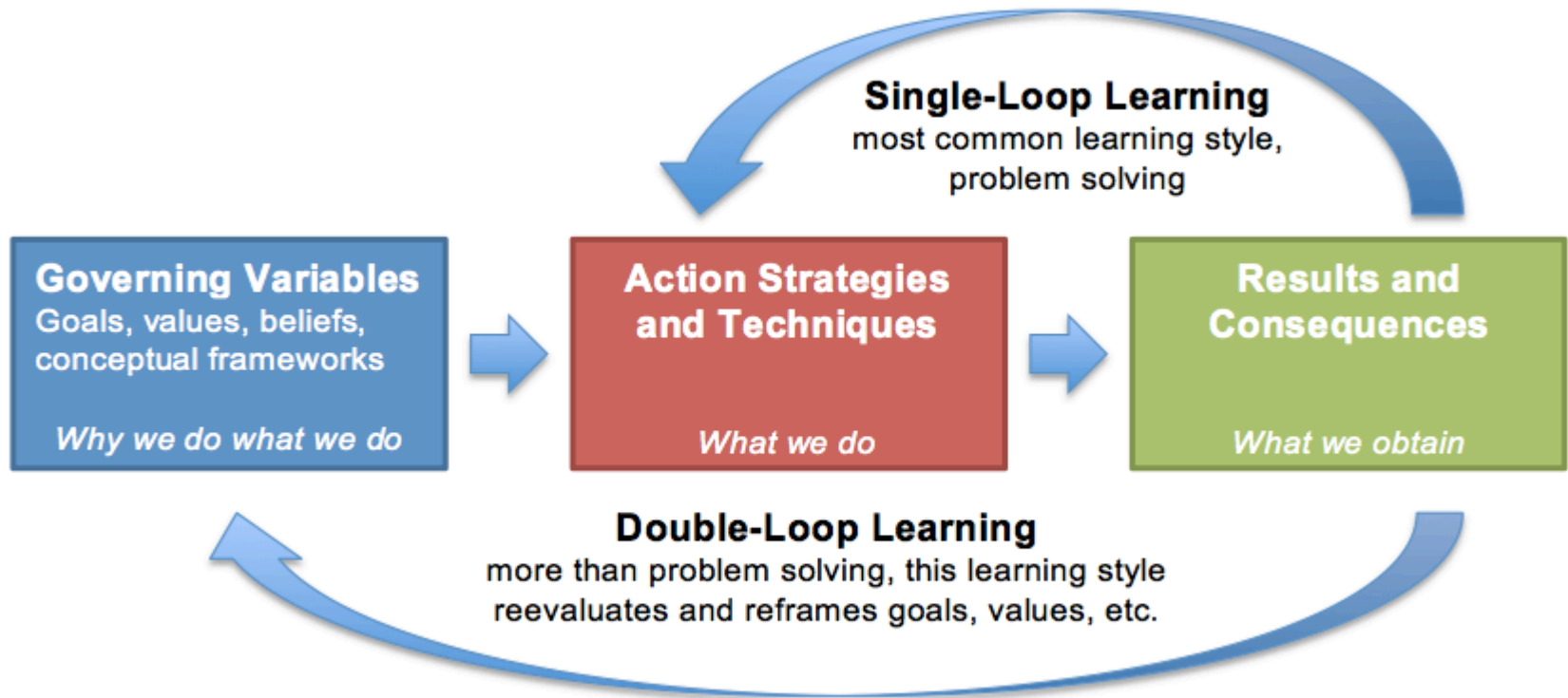
- "Sustainable development is development that meets the *needs* of the present without compromising the ability of future generations to meet *their own needs*" (Brundtland, 1987)
- Sustainability is a continuous process, *not* a one time measurement extrapolated to the future.
- For BF's: beyond past needs and linking to future needs: going beyond the land use cycle and going to land management



Monitoring and learning (1)

- Monitoring: “systematic sampling of air, water, soil, and biota in order to observe and study the environment, as well as to derive knowledge from this process” (Weston, 2011, p.1)
- Monitoring is defined as the regular execution of measurements during which information and developments are being gathered and planned and ***unplanned effects*** are being registered (Groot, 2002; Jacobson, Meyer et al., 2013)
- Traditionally, the learning function of monitoring is aimed at providing knowledge and responses, mainly based on past experiences.

Monitoring and learning (2)



Source:<http://www.afs.org/>.

(Argyris, Medema, Wals et al. 2014, Cooney and Lang 2007)

Early warning indicators as triggers

- “early indicators of BF origination”, that are to be used to *better understanding of why, how, where and when BFs are formed*, in order to avoid future BFs as much as possible: zero brownfields ambition (Hombre, 2012).
- The OECD (2008), describes an indicator as *a quantitative or a qualitative measure derived from a series of observed facts that can reveal relative positions in a given (thematic) area. When evaluated at regular intervals, an indicator can point out **the direction of change** across different units and **through time** (p. 13).*
- Signpost/Triggers: Signposts specify information that should be tracked in order to determine whether the plan is meeting the conditions for its success. In addition, critical values of signpost variables (triggers) beyond which additional actions should be implemented are specified (Haasnoot, 2013).

Early indicators: our first step

- D2.1 of HOMBRE: Indicators are only useful when they have meaning for the user (but even users need a starting point)
- Based on literature: 40 indicators on Economic, Social and Environmental

ELEMENT	CATEGORY	ISSUES INDICATORS MIGHT NEED TO CONSIDER	SUGGESTED INDICATORS	Effect on short/long term <10 years >	Scale Local/Regional/ National/Global	Source for data/info
	deindustrialisation or restructuring of the economic activities	Land use	the change of the percentages of areas under industrial land use	Short term	Local and National	EUROSTAT
			floor spaces for industrial, retail and office use	Short term	Local	Local/national statistics For example: http://www.communities.gov.uk/planningandbuilding/planningbuilding/planningstatistics/previousdevelopedbrownfield/
		Composition of employment	percentages of employment in industrial sector and service sector within municipalities	Short term and long term	Local and national	EUROSTAT Local/national statistics
		Composition of GDP	percentages of GDP in industrial sector and service sector within municipalities	Short term and long term	Local and national	EUROSTAT national statistics
		Employment	long term unemployment	Long term	Local national	EUROSTAT Local/national statistics
		Real estate market	property price	Short term	Local	Local/national statistics Online directories Property assessment cooperation

Different sets of criteria for indicators



Early indicators: some examples

- ***‘change of the percentages of areas under industrial land use’*** :
 - From the speed of changes of percentages of industrial land, the municipality may sense whether the out-migration of the industry is happening and evaluate the possibility of dereliction. Thus, the changes of the percentages of areas under industrial land use may be good early indicators for brownfield.
- ***‘% change in income groups in certain period’***
 - The change of land use within an area – going from heavy industry towards more service oriented activities – also has an impact on the society that supplies the labour force for these new service industries.
- ***‘change in the m2 of green area per inhabitant’***
 - According to Silverthorne (2006) green areas in urban areas increases the overall liveability and contributes to the quality of life in the locality.



Step 2: from 'off the shelf indicators' to design

- The definition of sustainability is in the 'eye of the beholder'
- To actually work on legitimate indicators stakeholders are involved
- Literature and document review on possible ways of actually designing are limited.



Ten steps to designing, building, and sustaining a results based monitoring and evaluation system (World Bank, 2004, p. 25)

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Concluding (for now)

- Implementing sustainability/holistic approach is a continuous process and thus requires monitoring.
- A conscious effort, systematic, adds value
- Challenges:
 - Making 'learning' explicit also in absence of events/brownfields
 - Involvement of multiple actors
 - Consequences and use of M&E, but also investment in M&E
 - Monitoring and discipline: how to implement the approach described.
 - Agendasetting: how can monitoring contribute ?
- Challenges, but not to stop because of these. *We are* adaptive, and could and should improve.



Thank you for your attention

- Questions:
- Pauline van Gaans

- Gerald Jan Ellen
- [geraldjan.ellen\(at\)deltares.nl](mailto:geraldjan.ellen@deltares.nl)

